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AGREEMENT REGARDING
INTERMEDIATE CAPACITY
TRANSIT SYSTEM

1 OF 2 1980

AGREEMENT DATED THIS

DAY OF JULY, 1980

BETWEEN:

HER MAJESTY THE QUEEN, in right of the
Province of Ontario, as represented by the
Minister of Transportation and Communications,

hereinafter referred to as the "Minister"

OF THE FIRST PART

- and -

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH,
a body corporate established by the Regional
Municipality of Hamilton-Wentworth Act of 1973,

hereinafter referred to as the "Region"


OF THE SECOND PART

WHEREAS the Province of Ontario intends to support a revenue service demonstration of the Intermediate Capacity Transit System (ICTS) developed by the Urban Transportation Development Corporation Ltd. (UTDC) and the Region has expressed a desire to have a rapid transit system placed into operation in the City of Hamilton;

AND WHEREAS to that end the Parties and the Government of Canada have reached agreements in principle with respect to the financing of the Hamilton ICTS Revenue Demonstration Project which agreements provide, among other things, for the Government of Ontario to undertake to complete such Project, and to pay such cost relative thereto, including approved cost overruns as are not paid by the Region and the Government of Canada;

AND WHEREAS the Minister recognizes that a certain amount of time will be necessary to execute and put into place the contracts between, as applicable, the Parties, the Government of Canada, and UTDC, arising out of the agreements referred to above, and further recognizes that time is of the essence with respect to the Hamilton ICTS Revenue Demonstration Project;

AND WHEREAS the Government of Canada considers it highly desirable for the Canadian Urban Transit Industry to develop an overall capability to plan, design, construct and commission urban transit technology in Canada, and/or abroad, and to this end the Minister deems it expedient that UTDC undertake the responsibility for the overall co-ordination and management of the ICTS Revenue Demonstration Project in Hamilton;



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AND WHEREAS the Region has defined a Pre-implementation Program consisting of certain tasks and studies which must be undertaken prior to the design and construction of a rapid transit system, and intends to enter into an agreement with UTDC with respect to UTDC undertaking the management of such Pre-implementation Program under the direction of the Region's Steering and Technical Committees, and performing certain of the tasks related thereto, which agreement appended hereto as Attachment I is intended to be the first stage of the Hamilton ICTS Revenue Demonstration Project;

AND WHEREAS the Region may enter into agreements with specialist consultants under the guidance of the Region's Steering and Technical Committees for performing certain of the tasks related to said Pre-implementation Program;

AND WHEREAS the Minister concurs with these intents of the Region and agrees to contribute funding to the equivalent of 75% of the total cost of the Pre-implementation Program in accordance with the provision of Section 20(2) of The Public Transportation and Highway Improvement Act and deems that having regard to the nature of the project the costs to be incurred and the needs of the Region, the remaining 25% of total costs will be represented by the staff salaries, wages and employees benefits incurred by the Region with the exception of the salary, staff and payroll cost associated with the Project Co-ordinator who shall be hired by the Region. Reasonable incidental costs such as mileage and other out of pocket expenses incurred by the Region will be paid by the Ministry.

NOW THEREFORE, in consideration of the premises and the terms and conditions herein contained, the Parties hereto covenant and agree as follows:

1. The Minister agrees to provide to the Region funding not to exceed the amount of \$3,500,000.00 for the Region's purpose in carrying out the Pre-implementation Program, such funding to be provided to the Region in the form of progress payments to be made against invoices submitted by the Region for costs incurred, in accordance with Article VIII.

II. The Region agrees to conduct the Pre-implementation Program as outlined in and in accordance with the agreement between the Region and UTDC dated July, 1980, appended hereto as Attachment I and forming a part hereof.

III. The Minister shall not make any payment to the Region that in the opinion of the Minister is not an integral part of the program and such decision of the Minister shall be final and binding.

IV. The Region shall provide the Minister promptly with copies of the monthly progress reports.

The Minister shall have the right to be provided with or have access to copies of any and all other reports, data and information provided to the Region with respect to the Pre-implementation Program.

Rights in and title to all data arising directly out of the Pre-implementation Program shall rest in the Region.

V. The Region shall retain all records and data collected or produced in the course of the Pre-implementation Program for a period of five years from the date of completion of the Pre-implementation Program and make same available to the Minister upon request.

VI. The Minister shall require the Region, who in turn shall also require its contracted parties, to keep a detailed record of the hours worked by staff in the execution of the Pre-implementation Program and that the Minister may inspect and audit the books, payroll accounts and records of the Region and of its contracted parties at any time with respect to any item to which the Minister is required to contribute.

VII. The Minister shall advance the sum of \$400,000.00 to the Region within 15 days of the execution of this agreement as a pre-financing fund which shall be expended by the Region for defraying costs properly chargeable to the Minister in advance

of receiving payment from the Minister against invoices submitted by consultants. It is expressly agreed that the pre-financing fund will be repayable by the Region to the Minister as credits on the final invoice submitted to the Minister for costs properly incurred as stated in this agreement. The pre-financing fund is for the sole purpose of discharging obligations properly incurred on behalf of the Minister in terms of this agreement in order to avoid late payment charges on accounts due and the sum advanced is not additional to the funding authorized in Article I hereof. At the discretion of the Minister the amount of the pre-financing fund may be reduced to correspond with the average of the actual monthly expenditures incurred by the Region.

VIII. The Region shall submit monthly invoices with supporting data to the Minister. Such invoices shall contain a statement as to costs incurred by or invoiced to the Region. The Minister shall make prompt payment in full of such invoices on receipt thereof.

IX. That the Region warrants that it has done all acts and obtained all approvals that are necessary to authorize the Region to enter into their agreement.

IN WITNESS WHEREOF the Minister of Transportation and Communications for the Province of Ontario on behalf of the Party of the first part, has hereto subscribed his signature and the Party of the second part has hereto by signature of its proper officials duly authorized in that behalf.

EXECUTED AT , AS OF THE DAY OF JULY, 1980.

MINISTER OF TRANSPORTATION AND COMMUNICATIONS

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH
By: _____

REGIONAL CHAIRMAN

REGIONAL CLERK

APPROVED BY COUNCIL

REGIONAL COMMISSIONER OF FINANCE

DATE Aug 5/80.....

REPORT 1975-80 3-80-81.....

AGREEMENT

FOR A HAMILTON ICTS PRE-IMPLEMENTATION PROGRAM

BETWEEN

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH

AND

URBAN TRANSPORTATION DEVELOPMENT CORPORATION LTD.

TABLE OF CONTENTS

	PAGE
ARTICLE I	
DEFINITIONS	3
ARTICLE II	
CONDUCT OF THE PRE-IMPLEMENTATION PROGRAM BY THE REGION	8
ARTICLE III	
RESPONSIBILITIES OF UTDC	9
ARTICLE IV	
PROSECUTION OF THE WORK	10
ARTICLE V	
REPORTS AND DATA	14
ARTICLE VI	
CONSIDERATION AND PAYMENT	18
ARTICLE VII	
USE OF THE REGION'S RESOURCES	24
ARTICLE VIII	
TERMINATION FOR CAUSE BY THE REGION	24
TERMINATION WITHOUT CAUSE BY THE REGION	26
TERMINATION BY UTDC	28
SUSPENSION OR DELAY	29
ARTICLE IX	
INDEMNIFICATIONS	30
ASSIGNMENTS BY UTDC	31
WAIVER	32
APPLICABLE LAW	32
COMPLIANCE WITH LOCAL LAWS	32
ARBITRATION	33
NOTICES	34
HEADINGS	35
CANADIAN CONTENT	36
ARTICLE X	
ORDER OF PRECEDENCE OF THE CONTRACT DOCUMENTS	36

SCHEDULE A - STATEMENT OF WORK

1.0	<u>INTRODUCTION & PURPOSE</u>	1
2.0	<u>GENERAL DESCRIPTION OF THE PRE-IMPLEMENTATION PROGRAM</u>	1
3.0	<u>PRE-IMPLEMENTATION PROGRAM MANAGEMENT</u>	4
3.1	Steering Committee	
3.2	Technical Committee	5
3.3.0	Project Coordinator	7
3.3.1	Project Manager	
3.3.2	Project Advisory Group	8
4.0	<u>SPECIFIC WORK TASK DESCRIPTION</u>	9
4.1	<u>Project Management</u>	
4.1.1	Task Purpose	
4.1.2	Contract Master Schedule	
4.1.3	Financial Management	11
4.1.4	Consultant Selection	12
4.2	<u>Data Collection</u>	12
4.2.1	Task Purpose	
4.2.2	Requirements	13
4.2.3	Sources	
4.2.4	Collection	14
4.2.5	Data Bank	
4.3	<u>Rapid Transit Rationale</u>	15
4.3.1	Task Purpose	
4.3.2	Corridor Definition	
4.3.3	Facility Purpose	16
4.3.4	Implementation Timing	17

	PAGE
4.4 <u>Environmental Assessment</u>	18
4.4.1 Task Purpose	
4.4.2 The Environmental Assessment Act	19
4.4.2.1 Requirements of the Act	
4.4.2.2 Other Provincial and Federal Acts	
4.4.3 Assessment Program	20
4.4.3.1 Program Definition	
4.4.3.2 Environmental Assessment	21
4.4.3.3 Documentation	
4.5 <u>Public Participation Program</u>	22
4.5.1 Task Purpose	
4.5.2 Program Definition	
4.5.3 Program Execution	23
4.5.4 Public Participation	
4.6 <u>Operational Requirement</u>	24
4.6.1 Task Purpose	
4.6.2 System Requirements Document	25
4.6.2.1 Requirements Parameters	
4.6.2.2 Requirements Definition	
4.6.2.3 Requirements Update	26
4.7 <u>Preliminary Design Standards</u>	26
4.7.1 Task Purpose	
4.7.2 Preliminary Design Standards Manual	27
4.8 <u>Evaluation Criteria</u>	27
4.8.1 Task Purpose	
4.8.2 Evaluation Criteria	
4.8.3 Evaluation Method	28

	PAGE
4.9 <u>Comparison of Alternative Modes</u>	29
4.9.1 Task Purpose	
4.9.2 ICTS Assessment	
4.9.3 Modal Comparison	
4.10 <u>Alternative Alignment</u> <u>Indentification</u>	30
4.10.1 Task Purpose	
4.10.2 Alignment Development	
4.10.3 Physical Description	31
4.10.4 Alignment Characteristics	32
4.11 <u>Alignment Analysis and</u> <u>Evaluation</u>	32
4.11.1 Task Purpose	
4.11.2 Preliminary Analysis and Evaluation	
4.11.3 Detailed Analysis and Evaluation	33
4.11.4 Evaluation Documentation	34
4.12 <u>Preliminary System Description</u>	34
4.12.1 Task Purpose	
4.12.2 Functional Plan	35
4.12.3 Preliminary System Specification	
4.12.4 System Operations Concept	36
4.12.5 Urban Integration	37
4.12.6 Environmental Integration	38
4.12.7 Operating Cost Analysis	
4.12.8 Preliminary Implementation Plan	39
4.12.9 Capital Cost Estimate	40

	PAGE
5.0 <u>DELIVERABLES</u>	40
5.1 Program Management	
5.2 Data Collection	
5.3 Definition of Alternatives	41
5.4 System Requirements	
5.5 Comparison of Alternative Modes	
5.6 Evaluation of Alignment Alternatives	
5.7 Design of Infrastructure	
5.8 Preliminary System Description	
5.9 Top Level Implementation Plan	42
6.0 <u>PRELIMINARY SCHEDULE</u>	42
7.0 <u>RESPONSIBILITY MATRIX</u>	
<u>SCHEDULE B</u> - <u>PRELIMINARY COST ESTIMATE</u>	
<u>SCHEDULE C</u> - Interim Financing Agreement between Her Majesty The Queen in right of the Province of Ontario, as represented by the Minister of Transportation and Communications, and The Regional Municipality of Hamilton - Wentworth and dated the 2 day of July, 1980.	
<u>SCHEDULE D</u> - Proposed Project Schedule for overall revenue demonstration program.	
<u>SCHEDULE E</u> - UTDC Application to the Government of Canada for industrial technology development financial assistance, Volumes 1 and 2, dated June 25, 1979.	
<u>SCHEDULE F</u> - Document entitled ICTS Operational Requirement	

AGREEMENT, dated this 30th day of July, 1980

B E T W E E N:

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH, a body corporate established by The Regional Municipality of Hamilton-Wentworth Act of 1973, (hereinafter referred to as the "Region")

OF THE FIRST PART

AND:

URBAN TRANSPORTATION DEVELOPMENT CORPORATION LTD., a company incorporated under the laws of Canada, (hereinafter sometimes referred to as "UTDC")

OF THE SECOND PART.

WHEREAS UTDC, under agreements with the Government of the Province of Ontario, as represented by the Minister of Transportation and Communications, has designed and developed an experimental and demonstration intermediate capacity transit system; and

WHEREAS the Region is desirous of carrying out the Pre-implementation Program (as hereinafter defined) and placing into operation in Hamilton a rapid transit system generally in accordance with the system and the transportation corridor described in the UTDC application for Government of Canada financial assistance, a copy of which is attached hereto as Schedule E; and

WHEREAS agreement in principle has been obtained from the Minister of Industry, Trade and Commerce, Canada, and the Minister of Transportation and Communications, Ontario for financial participation by the Governments of Canada and Ontario in a potential revenue demonstration project in Hamilton; and

WHEREAS it is the intent of the parties, the Government of Ontario and the Government of Canada to execute formal contracts among themselves putting into place the aforementioned agreements, but the parties, the Government of Ontario and the Government of Canada recognize that such contract executions will take a certain amount of time; and

WHEREAS the Government of Ontario, recognizing that time is of the essence with respect to the revenue demonstration project (as indicated in the proposed overall project schedule which is attached hereto as Schedule D), has agreed to provide funding to the Region to carry out the Pre-implementation Program all in accordance with the Interim Financing Agreement between Her Majesty the Queen in Right of the Province of Ontario and the Region a copy of which is attached hereto as Schedule C; and

WHEREAS it is the Region's intent that UTDC shall under contract with the Region manage and perform certain tasks included in the Pre-implementation Program and further it is UTDC's intent to coordinate its work among several parties, including UTDC's technical team, certain manufacturers, consultants, contractors, planners and architects, and such other persons, organizations or agencies as may from time to time during the course of the work be defined by the Region and/or UTDC; and

WHEREAS the Region is authorized to establish a public transportation system and empowered to do all such acts and things as may be necessary to provide a public transportation service within the Regional area pursuant to the provisions of Section 53b and 53j of The Regional Municipality of Hamilton-Wentworth Act, as amended.

NOW THEREFORE IN CONSIDERATION of the premises and terms and conditions herein contained, the parties hereto covenant and agree as follows:

ARTICLE I

DEFINITIONS

1.01 For purposes of the Contract Documents, unless there is something in the subject matter or context expressly inconsistent therewith, the expressions following shall have the following meanings:

Background Data and Industrial Properties:	All Data and Industrial Properties (other than Foreground Data) which are utilized, used, or disclosed to the Region, its officers, employees, and agents, during the performance of the Work
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under this Contract, and which are identified by UTDC as Background Data and Industrial Properties.

Contract: This agreement including all of the terms and conditions therein contained.

Contract Documents: The Contract; the Statement of Work, Schedule A of the Contract; and the Preliminary Cost Estimate, Schedule B of the Contract.

Data: Accumulated knowledge, experience, data, knowhow, secret processes, formulae, technology, techniques, procedures, studies, test results, programs, including computer programs and software, designs, drawings and related documents, technical and other information.

Foreground Data: Data which arises directly out of, or is acquired specifically for the purposes of, the performance of the Work under this Contract, and the costs for which are included in the costs for the Work.

Hamilton -
Wentworth
Rapid
Transit
System:

The intermediate capacity rapid transit system set down in Schedules C, D and E, to be implemented in the Region in the corridor bounded by:

- Cannon Street in the north;
- The proposed east-west arterial roadway (approximately 300 ft. south of Limeridge) in the south;
- Above the escarpment, bounded on the west by West Fifth and on the east by Upper Wentworth;
- Below the escarpment bounded by Bay Street on the west and Victoria Avenue on the east.

ICTS and ICTS
Development
Program

The whole, or any part of the intermediate capacity transit system designed and developed by UTDC, during Phases I, II and III of the ICTS Development Program under contracts between UTDC and Her Majesty in right of the Province of Ontario, as represented by the Minister of Transportation and Communications, as amended, together with any subsequent modifications,

changes, additions or improvements thereto,
however made.

ICTS
Operational
Requirement:

The document so titled and attached hereto as
Schedule F.

Industrial
Properties:

All patents of invention, copyrights, industrial
designs and any other intellectual or industrial
property rights in every country where the same
exist, from time to time, and all applications
therefor.

Pre-impleme-
mentation
Program

An interim program of activities, tasks and
studies more particularly described in Schedule A
attached hereto relating to a potential revenue
demonstration project for an ICTS in Hamilton,
such interim program being funded by the Interim
Financing Agreement attached as Schedule C
hereto.

Prime
Consultant:

Urban Transportation Development Corporation Ltd.
(also UTDC).

Project
Coordinator:

Such person as may be designated in writing by the Region to act in such capacity in the name of the Technical Committee and through The Regional Co-ordinator.

Project
Manager:

Such person as may be designated in writing by UTDC to act on its behalf in such capacity with respect to the Work.

Regional
Co-Ordinator:

The chief administrative officer of the Region appointed by by-law of The Regional Council.

Steering
Committee:

The committee comprised of representatives appointed by the Region and the terms of reference and responsibilities of which are outlined in Section 3.1 of the Statement of Work, Schedule A hereto.

Technical
Committee:

The committee comprised of such representatives from the Government of Ontario, the Region, the City of Hamilton and other additional members as appointed by the Region, the terms of reference and responsibilities of which are outlined in Section 3.2 of the Statement of Work, Schedule A hereto.

Subcontractor: Any individual, firm, partnership or corporation, including consultants, that performs for or furnishes to UTDC any part of the Work.

Work: The whole or any part of any work, matter or thing required to be furnished by UTDC for the purposes of this Contract, in accordance with the Contract Documents, including the management and coordination of the Pre-implementation Program.

ARTICLE II

CONDUCT OF THE PRE-IMPLEMENTATION PROGRAM
BY THE REGION

2.01 The Region is in complete charge and control of the

Pre-implementation Program and shall employ UTDC as the Prime Consultant to prosecute the Work.

2.02 The Region hereby undertakes to appoint a Steering Committee and a Technical Committee to conduct the Pre-implementation Program on its behalf in accordance with the Contract Documents. The Technical Committee on behalf of the Region shall assign the Work to UTDC and, from time to time, may assign certain other tasks and activities relating to the Pre-implementation Program to UTDC, any subcontractors directly employed by the Region, and any of the various departments of the Region through the Regional Co-Ordinator.

2.03 Recognizing that time is of the essence with respect to the cost and timely completion of the Work, the Region shall use its best efforts and shall require the Steering Committee and the Technical Committee to use their best efforts to meet any schedule dates to provide reviews, approvals, Data, reports and other information, such as may be required from time to time by UTDC or other contractors in order for UTDC or other contractors to perform the Work.

ARTICLE III

RESPONSIBILITIES OF UTDC

3.01 UTDC acknowledges that to the best of its knowledge the targets with respect to the content of, and schedule and cost for the Work, as set down in Schedules A and B are reasonable and achievable. UTDC agrees that it shall use its best efforts to complete the Work within those targets, provided however in the event that UTDC cannot complete the Work within the financial limitation of \$3,365,000, it shall provide timely notice to that effect to the Region and shall only prosecute further Work after the Region approves such further Work and the cost therefor.

3.02 UTDC agrees to perform the Work or ensure that the Work is performed in a professional and workmanlike manner all in accordance with the standards of the relevant professional disciplines. UTDC shall provide suitable qualified personnel the key members of which shall be identified to the Technical Committee and shall prosecute the Work in a timely manner in accordance with the Contract Documents.

ARTICLE IV

PROSECUTION OF THE WORK

4.01 Within thirty (30) days from the date of execution of

the Contract, UTDC shall appoint a Project Manager, and shall notify the Region of his name.

4.02 Within thirty (30) days from the date of execution of the Contract, UTDC shall provide to the Technical Committee a contract master schedule showing estimated start and completion dates as applicable for the Pre-implementation Program.

4.03 The Technical Committee after receipt of such contract master schedule shall promptly review the same and advise UTDC of any changes it may wish to have incorporated therein at such time. The Region shall formally indicate its approval of such schedule including changes thereto. Such schedule shall form the basis for UTDC proceeding with the Work.

4.04 The Project Manager shall submit to the Technical Committee on or before the tenth (10th) day of each month a written monthly progress report which shall summarize the Work done to the end of the monthly reporting period, Work planned for the subsequent monthly period, status against agreed contract master schedule, including delays envisioned and the reason therefor, problem areas, costs incurred against project budget to the end of the reporting period, and estimated cost to complete.

4.05 The Project Manager shall conduct regular program review meetings with the Technical Committee. Such meetings will be held at times and places mutually convenient to the parties.

4.06 The Steering Committee, the Technical Committee or the Project Manager shall have the right, with the consent of the others (which consent shall not be unreasonably withheld), to call review meetings at times other than those established for the monthly program review meeting upon five (5) days prior written notice. The notice calling any such meeting shall briefly summarize the matters proposed to be dealt with at such meeting and name the persons or entities required to be in attendance at such meeting.

4.07 As a result of any such reviews the Technical Committee may as provided in Section 2.02 assign tasks and activities to UTDC, any contractor directly employed by the Region and any departments of the Region through the Regional Co-Ordinator.

4.08 UTDC shall promptly proceed with any task or activity so assigned to it, except where the Project Manager considers any task so assigned to not be within the scope of the Work or the Pre-implementation Program. In such event he shall promptly so advise the Technical Committee in writing, stating his reasons for such consideration and the estimated additional cost to the Region for performing such tasks and the effect thereof on the dates contained in the contract master schedule. UTDC having given such notice shall not be required to undertake any such

task until directed to do so by the Region, having regard to the provisions of Section 3.01.

4.09 Should UTDC, in its turn, identify in the course of performing the Work any potential change to the work approved in the contract master schedule which it may consider desirable to the Pre-implementation Program, the UTDC Project Manager shall promptly notify the Technical Committee of such potential change, whether resulting in increased or decreased cost, including in such notification UTDC's recommendations with respect to the change, and the attendant cost and schedule effects. Pending receipt of the notice provided for in Section 4.10, UTDC shall not undertake any Work related to a change so proposed.

4.10 Upon the Region giving notice pursuant to Sections 4.08 and 4.09 as to its intention to proceed with a task, any supplements, amendments, modifications or changes resulting therefrom, shall become part of the Contract Documents and the contract master schedule shall be revised accordingly and submitted in accordance with the provisions of Section 4.03.

4.11 The Region and UTDC shall keep each other informed of any events or occurrences of which they may become aware which may affect the conduct of the Pre-implementation Program. The Project Manager shall promptly notify in writing the Technical

Committee of any event which may change or delay prosecution of the Work.

4.12 All Data relating to the Work except Data proprietary to UTDC or its Subcontractors shall at any time during normal business hours, be available for inspection by a representative of the Region designated in writing by the Technical Committee for that purpose.

4.13 Except in the case of those Subcontractors which form part of the UTDC technical team by virtue of their involvement in the previous phases of the ICTS Development Program, the Project Manager shall submit the names of UTDC's selected subcontractors and their qualifications to the Technical Committee and shall obtain the Region's consent prior to entering into subcontracts with said selected subcontractors. The Region's consent shall not be unreasonably withheld, and shall be granted in a timely manner, so as not to delay the prosecution of the Work by UTDC. In the event that the Region should withhold its consent for any reason, UTDC shall provide the name and qualifications of an alternate subcontractor acceptable to it, for Region approval. Within thirty (30) days following the date upon which such Region approval is given, UTDC shall submit to the Technical Committee a list of the names of key top-level personnel, both of UTDC and its subcontractors, who shall be dedicated to the program.

ARTICLE V

REPORTS AND DATA

5.01 All reports, information and Foreground Data required to be delivered under the Contract Documents shall be prepared in a manner and form consistent with good industrial/commercial practice, and shall be of good quality workmanship.

5.02 All reports, information and Foreground Data required to be delivered under the Contract Documents shall be submitted to the Technical Committee promptly after their preparation under cover of a formal UTDC document transmittal notice. The Technical Committee shall acknowledge receipt of each report and item of information and Foreground Data submitted by signing and returning to UTDC one copy of the transmittal notice.

5.03 With respect to designs, drawings and related documents, UTDC shall during the course of the Work and prior to its completion, cause to be produced a complete set of unfolded reproducible transparencies, bearing proper certifications and signatures, such designs, drawings and related documents to reflect the Work to the extent finally designed and developed under the Contract Documents. All designs, drawings and related documents shall be of good quality workmanship with clean dense lines and lettering suitable for microfilming.

5.04 All reports, information and Foreground Data, and designs, drawings and related documents shall be properly indexed to a single indexing system identifying same as part of the Work, and copies of all reports and Foreground Data, and the documentation referred to in 5.03, above, shall be maintained in a secure location.

5.05 Title to all Foreground Data shall vest in the Region on the date on which it is produced.

5.06 UTDC shall have the royalty-free right to use anywhere in the world Foreground Data for its purposes in developing and marketing ground transportation systems provided that:

- (a) it shall take all reasonable precautions to protect the Region's interests in such Foreground Data, and
- (b) it shall credit the Region (but without financial or other consideration) for use of the Region's Foreground Data in all written and oral presentations or proposals where such Foreground Data is used.

With respect to any Foreground Data which has been designated by the Technical Committee as confidential it shall

first notify the Region of its desire to use such Foreground Data, specifying the nature of the Data to be used, and the purposes, and shall provide the Region with the opportunity to approve the use of such Foreground Data.

5.07 Title to, or exclusive rights in the use of, all Background Data and Industrial Properties, shall remain vested in UTDC, or its Subcontractors, or licensors or licensees, as applicable.

All Background Data and Industrial Properties shall be identified as such, and the Region agrees that it shall not, except for purposes of this Contract, utilize, use, or disclose to third parties any Data or Industrial Properties so identified without the prior written consent of UTDC, provided that this provision shall not apply to such Data or Industrial Properties so identified which can be reasonably demonstrated:

- (a) to be in the public domain; or
- (b) to have been received independently by the Region from a third party, other than the Minister of Transportation and Communications for the Province of Ontario, or a Subcontractor of UTDC engaged in

performing the Work, or a party who received the documents directly or indirectly from UTDC.

ARTICLE VI

CONSIDERATION AND PAYMENT

6.01 Subject to the provisions of Article III hereof, the Region agrees to pay to UTDC, as consideration for performing the Work, all costs properly incurred by UTDC, and a 7-1/2% profit as specified in Section 6.04 below, the total not to exceed \$3,365,000.

6.02 For the purposes of this Contract the term "costs" shall be defined to include the following:

- (a) UTDC labour charges as defined in Section 6.03 below.
- (b) Subcontract and consultant charges as invoiced to UTDC plus a general and administrative mark-up thereon of 4% which is agreed between the parties to be a reasonable amount representing the cost to UTDC for executive review and action on the portion of the Work performed by Subcontractors and Consultants.

(c) Other direct charges, at cost to UTDC, including but not necessarily limited to:

- (i) Telex, telephone and telecommunication charges,
- (ii) Travel and living charges, reasonably incurred,
- (iii) Relocation expenses, reasonably incurred, for relocation of UTDC or Subcontractor personnel to Hamilton during the performance of the Work,
- (iv) Rental or other related costs in respect of office facilities, services, equipment and supplies required for personnel relocated to Hamilton, to the extent that such are not made available to UTDC or its Subcontractors by the Region,
- (v) Charges for copying, printing and collating of reports and Data.

6.03 UTDC labour shall be defined as personnel on the UTDC payroll or with whom UTDC has a personal services contract. Companies or individuals acting as consultants to UTDC, with the exception of companies or individuals supplying personnel overload services, shall not be included in the definition of UTDC labour.

For the purpose of this Contract UTDC direct labour charges shall be the actual time spent and paid for in performing activities and tasks related to the Work generally limited to planning and engineering analysis, project management designing, drafting, preparation of documentation, interfacing with the public and interest groups and committees, data collection, specialist advice and in the case of support activities, provisions of services for purchasing, contract preparation and administration, cost estimating, program control, program information, scheduling, cost control, clerical and typing services excluding that portion of their time which is charged to overhead. All other UTDC labour shall be considered as included in overhead.

UTDC labour charges shall be based on payroll costs plus 100%. Payroll costs are defined as being:

- (a) for personnel on the UTDC payroll, actual salary costs plus 25% for fringe benefits

- (b) for personnel on personal services contracts, their rates as agreed to with, and/or invoiced to, UTDC.

All time expended on the Work and approved by the Project Manager or his designate shall be charged in this manner.

6.04 UTDC shall be paid a profit of 7-1/2% on the allowable costs as set down in 6.02.

6.05 Invoice shall be complete and signed by an officer of UTDC and shall include a statement showing the cost incurred by major task as set forth in Schedule B hereto for the period covered by the invoice and an estimate of the program cost to completion. Invoices shall be prepared in reasonable detail sufficient for facilitating their review by the Region and shall be submitted ten (10) days after the end of each calendar month by UTDC to the Technical Committee through the Project Coordinator for Region approval. Subsequent non-submission of the monthly progress reports as provided in Section 4.04 shall constitute grounds for the Region withholding the payment due for the month in which such non-submittal occurs, until such time as the report is submitted.

Schedule B hereto shall be updated to provide final and more detailed cost estimates, within thirty (30) days from the date of execution of this Agreement.

6.06 Payments by the Region to UTDC shall be rendered monthly, less any disputed amounts, twenty (20) days following the submission of invoices by UTDC to the Technical Committee through the Project Co-ordinator.

The Project Co-ordinator shall advise the Project Manager of any disputed items within five (5) days of receipt of invoices.

6.07 The profit as specified in Section 6.04 above shall be included in such invoices in installments based upon 7-1/2% of the allowable costs, as set down in Section 6.02 incurred for each month.

6.08 UTDC shall provide a quarterly statement certified by UTDC's external auditors as to the correctness and validity of the costs to the Region contained in UTDC's and its Sub-contractors charges to the Region. The Region as an alternative to this arrangement may upon notice to UTDC and at its election and cost have an audit performed by auditors of its own choosing including the auditors of the Minister of Transportation and Communications. UTDC shall provide the necessary access to all accounting records and invoices pertaining to the cost of the Work to any such auditors appointed by the Region, or to the Commissioner of Finance of the Region.

6.09 The Region acknowledges that UTDC has incurred costs prior to the execution of the Contract such costs being for the preliminary work including developing the proposal and the Contract and negotiating the same. These charges based on the allowable costs as set down in Section 6.02, will form a part of

the first invoice, it being understood and agreed that such invoice shall be subject to the audit provisions herein.

6.10 Adjustments for errors or omissions in invoices or resulting from audits hereunder will be made on the next invoice following the determination of the same.

6.11 Interest costs incurred by UTDC for interim advances of funds provided by UTDC or made to UTDC by its bankers (presently at the Prime Rate and subsequently at such Rate as is actually charged to UTDC by its bankers) for the purpose of meeting costs of the Work where the Region shall fail to pay UTDC pursuant to Section 6.06 by the last date specified therein until the date payment is actually rendered shall be considered as allowable costs. The rate of interest to be used in calculating such interest costs shall be the rate of interest charged to UTDC by its bankers during the period when such funds of UTDC were advanced. UTDC shall furnish proof of the interest rate charged by means of a signed statement by its bankers. Where failure to make payments by the Region is owing to a dispute as to the amount of payment, then interest charges shall be payable on disputed amounts provided that the resolution of such dispute is in favour of UTDC.

6.12 It is understood and agreed that the provision of this Article with respect to all aspects of costs, and profit thereon, are not intended to set a precedent for future contracts between UTDC and the Region related to the Hamilton-Wentworth ICTS revenue demonstration project.

ARTICLE VII

USE OF THE REGION'S RESOURCES

7.01 The Region acknowledges that UTDC or its Subcontractors may require access to or the services of technical resources, specialist services, facilities, or information services belonging to or under the control of the Region, or further may require the Region's assistance in obtaining access to or services of other public offices or facilities not under the direct control of the Region, during the performance of the Work.

7.02 The Region agrees that it shall provide, at no cost to UTDC, such assistance as may be necessary to obtain such access or services.

ARTICLE VIII

TERMINATION FOR CAUSE BY THE REGION

8.01 The Region shall be entitled to terminate the Contract or the performance or furnishing of the whole or any portion of the Work by reason of the following causes:

- (a) If the Work is being performed or furnished by UTDC or its subcontractors in such a manner that there will be

a material delay in the performance or furnishing of the Work in accordance with the Contract Documents, except for delays arising from causes which can be shown to be beyond the reasonable control of UTDC, and of which notice has been given to the Region as provided in Section 4.11;

- (b) If UTDC abandons the Work or discontinues the Work in violation of the Contract Documents;
- (c) If UTDC is in breach of any material terms of the Contract Documents;
- (d) If UTDC becomes insolvent, bankrupt or otherwise financially unable to perform or furnish the Work;
- (e) If UTDC or its subcontractors is unsatisfactorily carrying out the Work;

provided that, except with respect to the cause provided for in (d) above, the Region shall first provide written notice to UTDC of its intent and the cause, and UTDC shall have a period of thirty (30) days following the receipt of such notice to cure the cause, or to advise the Region, in writing, of what steps UTDC will take to remedy such cause, if such cause is incapable of being remedied within the thirty (30) day period.

8.02 In the event that the steps provided for in Section 8.01 to remedy the cause are not taken, or the cause specified in 8.01(d) shall have arisen, the Region may by written notice terminate all or any part of the Work. UTDC shall not be entitled to payment pursuant to Article VI of any costs for:

(a) any Work, in the event of termination of the Contract of the whole of the Work, or

(b) for Work relating to the portion of the Work terminated in the event of termination of a portion of the Work,

performed or furnished after the date of receipt of such notice, with the exception of reasonable and itemized costs, and any claims, losses, expenses, damages, or penalties incurred by UTDC or any of its Subcontractors as a result of or in connection with such termination, but not including any losses or damages for loss of anticipated profits.

TERMINATION WITHOUT CAUSE BY THE REGION

8.03 The Region shall upon giving notice to UTDC be entitled to terminate the Contract or the performance or furnishing of the whole or any portion of the Work if, in the complete discretion

of the Region, it would be unwise to continue the performance or furnishing of the Work for any reason whatsoever, provided that on such termination UTDC shall be entitled to payment pursuant to Article VI of

- (a) all costs (including applicable profit of 7-1/2% thereon) for the Work in the event of the termination of the Contract or the whole of the Work, or for Work relating to the portion of the Work terminated, in the event of the termination of a portion of the Work, performed or furnished to the date of receipt of such notice; and
- (b) any reasonable costs (including applicable profit of 7-1/2% thereon), claims, losses, expenses, damages or penalties incurred by UTDC in effecting the termination of the Contract or the performance or furnishing of the whole or any portion of the Work, applicable other than losses or damages for loss of anticipated profits by UTDC, or any of its Subcontractors.

TERMINATION BY UTDC

8.04 UTDC shall be entitled to terminate the Contract for the following causes:

- (a) if any suspension or delay of the whole or a substantial portion of the Work in accordance with Section 8.06 shall continue for more than six (6) months provided that such suspension or delay is not caused by UTDC or its subcontractors;
- (b) if the Region shall delay in paying UTDC pursuant to Article VI for a period exceeding three (3) months unless the delay arises out of a bona fide dispute between the parties as to the obligations of the Region to render such payment, provided that UTDC shall not be entitled to so terminate unless such cause shall have been continuing for ten (10) days after UTDC shall have given notice to the Region thereof and the Region shall not have cured or caused to be cured such delay within the said ten (10) day period.

8.05 In the event UTDC terminates the Contract pursuant to Section 8.04, UTDC shall be entitled to payment pursuant to Article VI of the costs for Work performed or furnished to the

date of such termination and any reasonable and itemized costs, including the applicable 7-1/2% profit thereon and any incurred by UTDC or any of its Subcontractors as a result of or in connection with such termination but not including any losses or damages for loss of anticipated profit.

SUSPENSION OR DELAY

8.06 UTDC shall upon notice from the Region suspend or delay the performance or furnishing of the whole or any portion of the Work if, in the complete discretion of the Region, it would be unwise to continue the performance or furnishing of the whole or any portion of the Work for any reason whatsoever, and the performance or furnishing of the Work or the portion thereof suspended or delayed shall not be resumed until the Region shall give UTDC notice to such effect, provided that UTDC shall be entitled to payment pursuant to Article VII for any reasonable costs, including applicable profit of 7-1/2% thereon and any claims, losses, expenses, damages or penalties, incurred by UTDC or any of its Subcontractors as a result of or in connection with such suspension or delay, but not including any losses or damages for loss of anticipated profits. In the event of any such suspension or delay, UTDC shall take all steps that will mitigate such costs, losses, expenses, damages or penalties.

8.07 Except as otherwise provided in this Article VIII, UTDC shall not terminate, discontinue, suspend or delay the performance or furnishing of the Work.

ARTICLE IX
INDEMNIFICATIONS

9.01 UTDC will from time to time at all times during the Pre-implementation Program well and truly save, defend and keep harmless, and fully indemnify the Region from and against all claims and demands which may be brought against or made upon the Region for all claims, losses, liabilities, judgments, costs, damages or expenses which the Region may sustain, suffer or be put unto in connection therewith, resulting from, or arising from the performance or non-performance of the Work by UTDC save and except to the extent that such claims, losses, liabilities, judgments, costs, damages or expenses arise out of the negligence of the Region, or its employees or agents.

9.02 The Region will from time to time at all times during the Pre-implementation Program well and truly save, defend and keep harmless, and fully indemnify UTDC from and against all claims and demands which may be brought against or made upon UTDC for claims, losses, liabilities, judgments, costs, damages or expenses which UTDC may sustain, suffer or be put unto in

connection therewith, resulting from, or arising from the performance or non-performance by the Region of the Pre-implementation Program save and except to the extent that such claims, losses, liabilities, judgments, costs, damages or expenses arise out of the negligence of UTDC, or its employees or agents.

ASSIGNMENTS BY UTDC

9.03 UTDC shall not assign, transfer, convey, or otherwise dispose of the Contract, or its right, title or interest in or to the Contract or the Contract Documents, or any part thereof, without the prior written consent of the Region, except as provided in Section 4.13, and provided that prior written consent shall not be required for assignment of the Contract or any or all of the Work to Metro Canada Limited, an associated company of UTDC provided in the later event that UTDC shall remain liable for the covenants of the Contract.

The Region's consent to any such assignment shall not relieve UTDC of its obligations or responsibilities under the Contract Documents, and UTDC shall be liable for any acts or omissions of any of its assignees, or Subcontractors.

WAIVER

9.04 No waiver of any right under the Contract Documents shall be binding or effective unless such waiver is in writing and signed by the party granting such a waiver.

APPLICABLE LAW

9.05 The Contract Documents shall be governed by the laws of the Province of Ontario.

COMPLIANCE WITH LOCAL LAWS

9.06 UTDC agrees that all Work will be performed and furnished in accordance with all local laws, statutes, by-laws, regulations, codes, consents and approvals and other provisions of any government or governmental agency or authority, federal, provincial, municipal or local, governing or affecting in any manner whatsoever the performance or furnishing of the Work at such other places or locations at which the Work is being performed or from which the Work is or will be furnished, as the case may be, provided that the Region shall provide such information and assistance as may reasonably be requested by UTDC in order to comply with such.

9.07 UTDC shall ensure that all consents, approvals, orders, directs, permissions or other thing from any government or governmental authority or agency, federal, provincial, municipal, or local, necessary for the performance or furnishing of the Work under the Contract Documents are obtained, provided that the Region shall provide such information and assistance as may reasonably be requested by UTDC in obtaining such.

9.08 Such Work as may be performed or furnished or caused to be performed or furnished by UTDC to satisfy its obligations pursuant to Section 9.06 and 9.07 shall be deemed to form part of the Work.

ARBITRATION

9.09 In the event of any dispute, difference or question which may arise at any time out of the Contract Documents or the interpretation thereof (including any dispute, difference or question with respect to termination) which the parties cannot resolve between themselves, such dispute, difference or question shall be subject to the laws of the Province of Ontario and shall be submitted to the official arbitrator appointed for the Region for arbitration in accordance with The Municipal Arbitrations Act of Ontario.

NOTICES

9.10 The Region and UTDC recognize that all communications between them should be facilitated and therefore whenever either of them is obligated or entitled under the Contract Documents to give the other a notice, request or direction, each will endeavour to communicate the substance thereof to the other personally or by telephone as quickly as possible provided that any notice, request or direction required or permitted and so given under the Contract Documents shall have no force or effect until confirmed in writing and delivered personally or given by telegraphic communication or by mailing the same by prepaid post to the party or person to whom the notice, request or direction, is being given at the following addresses:

To UTDC at:

Hamilton Rapid Transit Office
Urban Transportation Development
Corporation Ltd.
Concoûrsé Level
100 Main St. E.
Hamilton, Ontario
L8N 3W4

Attention: The Program Manager
Copy to: UTDC Contracts Administration
Department

To the Region at:

The Regional Municipality of Hamilton-
Wentworth
Century 21, 100 Main Street East,
P.O. Box 910
Hamilton, Ontario
L8N 3V9

Attention: The Project Coordinator
Copy to: The Regional Co-Ordinator

Any notice, request or direction if delivered personally shall be deemed to have been given and received on the day on which it was so delivered and if given by telegraphic communication shall be deemed to have been given and received on the day on which it was so transmitted and if mailed in Ontario shall be deemed to have been given and received on the fifth business day following the date on which it was mailed. Either party hereto may change its address or the person to whose attention notices, requests and directions may be given.

HEADINGS

9.11 The headings provided for in the Contract shall be for

convenience or reference only and shall be of no effect in interpreting any of the provisions of the Contract.

CANADIAN CONTENT

9.12 UTDC agrees to give prime consideration to Canadian content and Canadian technology in performing the Work.

ARTICLE X

ORDER OF PRECEDENCE OF THE CONTRACT DOCUMENTS

10.01 The Contract Documents are complementary, and what is called for by any one of them shall be as binding as is called for by all.

10.02 In the event of errors, omissions, ambiguities, discrepancies, or inconsistencies in the provisions of the Contract Documents, specific Contract Documents shall govern and take precedence, as follows:

- (a) the provisions of all supplements, amendments, modifications, or changes to Contract Documents shall govern and take precedence over the provisions of the Contract Documents supplemented, amended, modified, or changed thereby;

(b) the provisions of the Contract shall govern and take precedence over the provisions of the Statement of Work, Schedule A and the Preliminary Cost Estimate Schedule B;

(c) The provisions of the Statement of Work, Schedule A, shall govern and take precedence over the provisions of the Preliminary Cost Estimate, Schedule B.

IN WITNESS WHEREOF the parties hereto have annexed their corporate seals attested to by the signatures of their proper

officials duly authorized in that behalf.

Executed at Hamilton, Ontario on the day of July, 1980.

THE REGIONAL MUNICIPALITY OF
HAMILTON-WENTWORTH

BY: _____
Chairman

Clerk

Commissioner of Finance

BY: _____
President and Chief
Executive Officer

Secretary

SCHEDULE A - STATEMENT OF WORK

1.0 INTRODUCTION & PURPOSE

The Pre-implementation Program consists of tasks and activities which are envisaged as having to be completed prior to construction of a rapid transit system in Hamilton-Wentworth. The purpose of the Pre-implementation Program is to define the system which best contributes to the achievement of the Region's goals and objectives and to provide the documentation necessary for the Region to proceed with the obtaining of such approvals as are required to proceed with the implementation of such system.

The Pre-implementation Program will be conducted by the Region under funding agreements with the Ministry of Transportation and Communications of Ontario.

Regional Council, in consultation with the appropriate municipal, provincial and federal agencies, shall make all the necessary policy decisions required in order to implement a revenue service demonstration project of the ICTS technology, to meet the existing and future needs for transit service in the Region.

2.0 GENERAL DESCRIPTION OF THE PRE-IMPLEMENTATION PROGRAM

The work contemplated under the Pre-implementation

Program as defined in Section 1 above is envisaged to comprise, without necessarily being limited to, the following:

- (a) The confirmation of the rationale for a medium capacity transit system.
- (b) The selection of the priority corridor for development of a medium capacity transit system (this task has been completed).
- (c) The operational requirements for the medium capacity transit system.
- (d) The appropriateness of UTDC technology to meet the Region's requirements.
- (e) The identification of alternative alignments and station locations for an ICTS route.
- (f) The estimation of transit patronage for alternative alignments.
- (g) Impacts on the social and natural environment.

- (h) Integration of the surface transit, the road and the traffic systems.
- (i) Integration of land use plans and policies.
- (j) Integration with inter-city transit and inter-city transit terminals.
- (k) The ability to accommodate future expansions of the ICTS system.
- (l) Public attitudes toward the alternative ICTS alignments.
- (m) The capital and operating financial implications associated with the alternative and the selected alignment.
- (n) The selection of a preferred alignment.
- (o) Property requirements.
- (p) Functional design of the right-of-way and structures.

- (q) Functional design of stations, maintenance, storage and operational facilities.
- (r) The implementation schedule for the Hamilton-Wentworth Rapid Transit System, as defined by items (a) through (q) above.

Section 4.0 below defines the activities which make up the Work, to be performed by the Prime Consultant, UTDC, hereunder.

3.0 PRE-IMPLEMENTATION PROGRAM MANAGEMENT

3.1 Steering Committee

The Steering Committee's terms of reference and responsibilities shall be to:

- (i) Oversee the studies necessary to aid Regional Council in making decisions concerning the need for and implementation of a revenue service demonstration of the ICTS technology developed by UTDC.
- (ii) Provide guidance and direction to the Technical Committee.

- (iii) Recommend to Regional Council specific terms of reference for the necessary studies.
- (iv) Recommend to Regional Council consultants, contractors or agencies to carry out necessary studies or analysis.
- (v) Approve the major documents and milestones associated with the program.
- (vi) Receive recommendations from the Technical Committee.
- (vii) Prepare recommendations for Regional Council.

3.2 Technical Committee

The Technical Committee's terms of reference and responsibilities shall be to:

- (i) Prepare a detailed terms of reference for the study or sub-studies required for decision making associated with the ICTS demonstration project.
- (ii) Review with and provide final consents to the Prime Consultant relative to the Prime Consultant's selected consultants or contractors to be hired for the Work.

- (iii) Recommend to the Steering Committee, the consultants, contractors or agencies to be hired by the Region to carry out specific Pre-implementation Program tasks.
- (iv) Assign work to specific consultants or Regional or Provincial or Federal Agencies.
- (v) Review all related activity and work undertaken by the Prime Consultant and its subcontractors, other consultants or subcontractors hired directly by the Region, and departments or agencies of the Region and the City of Hamilton.
- (vi) Provide guidance and direction to the Prime Consultant and other consultants, subcontractors, departments or agencies as listed in (v) above.
- (vii) Prepare reports and recommendations for submission to the Steering Committee.
- (viii) Co-ordinate the supply of information and resources to the project team and consultants.

- (ix) Liaise with other agencies and organizations (e.g., utilities).
- (x) Liaise with public and private interest groups.
- (xi) Liaise with the Steering Committee and the Regional Co-Ordinator for the Region in respect of decisions or approvals required of the Region.
- (xii) Review and approve monthly progress reports and recommend payments to the Prime Consultant for Work performed.

3.3.0 Project Coordinator

The responsibility for directing the day-to-day affairs of the Technical Committee and for providing administrative liaison with the Project Manager will rest with the Project Coordinator who shall be appointed by the Technical Committee. All formal notifications, invoices, progress reports and communication between the Prime Consultant and the Technical Committee will take place between the Project Manager and the Project Coordinator or someone authorized to act for them or on their behalf.

3.3.1 Project Manager

The responsibility for directing the Work of the Prime

Consultant's technical team will rest with the Project Manager who will be appointed by the Prime Consultant.

The Prime Consultant's technical team reporting to the Project Manager will consist of a staff of qualified personnel drawn from the Prime Consultant and other contractors for the ICTS Development Program. This core group of program staff will maintain continuity between the ICTS Development Program and the revenue service demonstration project throughout the project and will be supported by consultants hired for the work and by specialists from the ICTS technical team and from other agencies, as necessary.

3.3.2 Project Advisory Group

The Prime Consultant will establish a project technical advisory group to provide direct advice on all matters respecting the Pre-implementation Program to the Project Manager. This advisory group will consist of personnel with senior executive responsibility in the development, construction and operation of major transit properties using fixed rail systems.

To ensure effective coordination between the Region and the Prime Consultant's engineering staff in Kingston, a Project Management Office will be established in Hamilton. Program staff will be based at the office most appropriate to

their skills. The activities of both offices will be directed by the Project Manager.

4.0 SPECIFIC WORK TASK DESCRIPTIONS

4.1 Project Management

4.1.1 Task Purpose

- (a) To manage the Pre-implementation Program on the Region's behalf so that the budget and schedule are properly controlled.
- (b) To manage the Work performed by UTDC and its Subcontractors and monitor the work of the Region's subcontractors with a view to its consistency with the aims of the Pre-implementation Program.
- (c) To provide the Region with regular reports on the progress of the Work.

4.1.2 Contract Master Schedule

- (a) Prepare a contract master schedule for the Pre-implementation Program in accordance with the requirements of the Contract.

- (b) Monitor progress of the Work against the contract master schedule.
- (c) Identify significant deviations from the contract master schedule, notify the Technical Committee of these, and take or recommend appropriate remedial action.
- (d) Conduct regular meetings of the UTDC technical team to review schedule status.
- (e) Identify in a timely manner any work subsequently discovered not to be included in the contract master schedule that should be undertaken to complete the project, define the cost, time and resource requirements of such extra work, and make recommendations to the Technical Committee with respect to such work.
- (f) Provide regular written and oral reports to the Technical Committee of progress against the contract master schedule, in accordance with the requirements of Section 4.0 of the Contract.

4.1.3 Financial Management

- (a) Draft a project budget for the Pre-implementation Program based on the contract master schedule and on estimates from the Region for costs to be incurred directly by the Region, or its consultants, and submit the budget to the Technical Committee for approval.
- (b) Maintain a proper and timely record of all labour and material expenditures.
- (c) Track these expenditures against the project budget, advise the Technical Committee of any anticipated significant departures from the budget, and take or recommend corrective action when requested by the Technical Committee.
- (d) Monitor the use of labour and materials to ensure the most cost-effective use of both.
- (e) Provide regular written and oral financial and performance reports to the Technical Committee, in accordance with the requirements of Section 4.0 of the Contract.

4.1.4 Consultant Selection

- (a) Determine the categories of consultant expertise required to augment the UTDC technology team to perform the Work.
- (b) Develop a method for selection of consultants in conjunction with the Technical Committee in each of the categories.
- (c) Prepare terms of reference describing the work programs to be undertaken by consultants.
- (d) Select and hire consultants to perform the Work as required using the method developed in Section 4.1.4(b).

4.2 Data Collection

4.2.1 Task Purpose

- (a) To identify and assemble the Data base required for the Work.
- (b) To undertake activities necessary to generate any Data required by the Work that is not immediately available.

- (c) To store Data required by and/or generated in the course of the Pre-implementation Program.

4.2.2 Requirements

- (a) Prepare a preliminary list of Data requirements.
- (b) Review the tasks included in the Work to determine the specific Data needs of each task.
- (c) Prepare a description of each element of Data required.
- (d) Review the Data requirements of each task during the course of the Work and revise the requirements if necessary.

4.2.3 Sources

- (a) With the assistance and guidance of the Technical Committee, meet with staff of the various Regional departments, utilities, and other potential sources to determine Data availability and the process for requesting and transmittal of Data.
- (b) Assess the suitability of the available Data using, if necessary, the assistance of specialist consultants.

- (c) Define a program to generate or update any of the required Data that does not exist in suitable form or detail for the needs of the Work, including consideration of the time and cost of this program and the potential for using alternative available Data.

4.2.4 Collection

- (a) Collect the available Data in the level of detail and at the time required for the performance of the Work.
- (b) Undertake the program to generate the required additional Data for the performance of the Work.
- (c) Perform supplementary Data collection as necessary during the course of the Work to support the completion of the Work tasks.

4.2.5 Data Bank

- (a) Develop procedures for the storage and distribution of Data.
- (b) Maintain an up-to-date Data bank and a catalogue of the Data therein.

4.3 Rapid Transit Rationale

4.3.1 Task Purpose

- (a) To review and document the basis for determining the corridor, purpose, justification and implementation timing of the Hamilton-Wentworth Rapid Transit System.
- (b) To prepare the necessary documentation in support of the rationale, such as may be required under Provincial legislation.

4.3.2 Corridor Definition

- (a) Review and summarize the findings of previous transportation studies, document any updates required relative to Data collected under Section 4.2.4.
- (b) Review and summarize the characteristics of the existing and projected Regional transportation corridors, defined in previous studies.
- (c) Document the Regional development patterns envisaged in the draft Official Plan.
- (d) Summarize the reasons for the selection of the Mountain Corridor as the priority corridor for rapid transit relative to the other corridors, and relate these

reasons to the information from (a), (b), and (c) above.

- (e) Describe the reasons for the selection of the Mountain Corridor boundaries for the Hamilton-Wentworth Rapid Transit System.

4.3.3 Facility Purpose

- (a) Assess the purpose of the Hamilton-Wentworth Rapid Transit System in relation to
 - o the transportation demand expected in an appropriate planning horizon
 - o modal split projections
 - o land use planning and the development patterns of the Official Plan
 - o environmental issues regarding transportation facilities across, above, and below the escarpment
 - o fossil fuels supply, consumption, and cost

- o economic activity projected for the Region
- (b) Document the relationship between approved Regional objectives and the Hamilton-Wentworth Rapid Transit System.
- (c) Document the transportation, economic and urban objectives of the Hamilton-Wentworth Rapid Transit System.
- (d) Document the provincial, national, and international aspects of the Hamilton-Wentworth Rapid Transit System.

4.3.4 Implementation Timing

- (a) Using previously completed studies, updated where appropriate, summarize the projected development of transportation demand across the escarpment in the Mountain Corridor, including the demand projected on the basis of a Hamilton-Wentworth Rapid Transit System.
- (b) Document the years when road and transit capacity across the escarpment in the Mountain Corridor will

become insufficient to meet these demands, based on capacity and level of service standards commonly used by the Region.

- (c) Determine the timing associated with the other factors identified in Section 4.3.3.
- (d) Compare the timing associated with the above factors to the implementation timing, and document the reasons associated with the proposed implementation schedule.

4.4 Environmental Assessment

4.4.1 Task Purpose

- (a) To assess impacts of the Hamilton-Wentworth Rapid Transit System on the social and natural environment, as defined by The Environmental Assessment Act of Ontario.
- (b) To provide the information required by the system designers in order to minimize the social and natural environmental impacts.
- (c) To analyze the inputs received through the public participation process from the public, the private sector, and special interest groups.

- (d) To prepare documentation required for preparation of a submission to be made by the Region for planning approval under The Environmental Assessment Act of Ontario.

4.4.2 The Environmental Assessment Act (the "Act")

4.4.2.1 Requirements of the Act

- (a) Define the requirements for the assessment of social and natural environmental impacts as defined by the Act as they relate to the location, design, construction, and operation of the Hamilton-Wentworth Rapid Transit System.
- (b) Determine the procedures to be followed and the documentation necessary in order to obtain planning approvals (Concept, Preliminary Design and Alignment) necessary under the Act to proceed with implementation.

4.4.2.2 Other Provincial and Federal Acts

- (a) Determine the relationship between the requirements of the Act and any other Provincial and Federal regulations that bear on the Hamilton-Wentworth Rapid Transit System.

- (b) Determine the extent to which the requirements of these other acts and regulations are satisfied by the procedure and documentation defined in Section 4.4.2.1(b).
- (c) Define the additional procedures and documentation required to satisfy the other acts and regulations.

4.4.3 Assessment Program

4.4.3.1 Program Definition

- (a) Define the environmental assessment tasks to be undertaken.
- (b) Define the information requirements of the environmental assessment tasks.
- (c) Review the other tasks of the Pre-implementation Program to determine the information available from those tasks.
- (d) Define the additional environmental assessment tasks necessary to obtain the required information base.
- (e) Define the relationships between the public information program and the environmental assessment program,

particularly with respect to the assessment of social impacts.

4.4.3.2 Environmental Assessment

- (a) Perform a preliminary environmental assessment of each of the alternative alignments identified in order to assist in the determination of the candidate alignments to be shortlisted.
- (b) Perform a detailed environmental assessment of the shortlisted alignments.

4.4.3.3 Documentation

- (a) Prepare the documentation required to support the public participation process.
- (b) Prepare the documentation required by the Technical Committee, the Steering Committee and the Regional Council in order to consider the shortlisted and recommended alignments.
- (c) Prepare documentation required for preparation of a submission to be made by the Region for planning approval under The Environmental Assessment Act of Ontario.

4.5 Public Participation Program

4.5.1 Task Purpose

- (a) To provide a system for the dissemination of information concerning the study to the general public, in both a structured format and in response to questions as they arise.
- (b) To provide an open public forum for the input of public ideas, concerns, and attitudes concerning the characteristics and location of the Hamilton-Wentworth Rapid Transit System.
- (c) To provide an opportunity well in advance of the formal approval process under the Act for the early resolution of public concerns regarding the Hamilton-Wentworth Rapid Transit System.

4.5.2 Program Definition

- (a) Define the approaches to be employed to interact with the public, including guidelines concerning the relative importance of mailings, public meetings, open houses, and other techniques.

(b) Define a public participation program that interfaces with and is appropriate to each of the major phases of the study:

- o requirements definition
- o alternatives generation
- o alternatives evaluation
- o conceptual design and documentation

(c) Define the supporting materials, information, facilities, and professional skills required by the public participation program.

4.5.3 Program Execution

Conduct the public participation program defined in Section 4.5.2(b).

4.5.4 Public Participation

(a) During the course of the public participation program, refer the public concerns and questions to the appropriate study team member, and ensure that answers are prepared and distributed.

- (b) Prepare an interim report concerning the public participation program at the conclusion of each study phase as defined in Section 4.5.2(b).
- (c) Prepare a final report at the conclusion of the study in a form suitable for submission to the Ministry of the Environment describing the public participation program, the information disseminated, the public concerns and questions and answers provided.
- (d) Provide on a continuing basis a public information centre in the Hamilton-Wentworth Rapid Transit Project Office, in Hamilton for interested members of the public.
- (e) Provide access on a controlled basis (by passes) to the Transit Development Centre in Kingston, and host/hostess services attendant thereto, to interested members of the public.

4.6 Operational Requirement

4.6.1 Task Purpose

To define the transportation, urban integration, performance, and operating requirements that must be met by the Hamilton-Wentworth Rapid Transit System.

4.6.2 System Requirements Document

4.6.2.1 Requirements Parameters

- (a) Review the parameters defined in the ICTS Operational Requirement.
- (b) Review operational requirements developed for existing and planned transit systems in other cities.
- (c) On the basis of the above review, identify the parameters to be defined in the Hamilton-Wentworth Rapid Transit System system requirements document.
- (d) Identify any additional parameters, including those related to future system capacity and growth, that should be included to reflect the special needs of the Hamilton-Wentworth Rapid Transit System.

4.6.2.2 Requirements Definition

- (a) Define desirable transportation requirements and limits for each parameter.
- (b) Define desirable urban integration requirements and limits for each parameter.

- (c) Define desirable system performance and operating cost requirements and limits for each parameter.
- (d) Define desirable operating and passenger service requirements and limits for each parameter.
- (e) Aggregate the requirements defined for each of the categories above to produce a draft system requirement document.
- (f) Review the document to ensure internal consistency among all requirements.

4.6.2.3 Requirements Update

- (a) As new and more detailed information becomes available during the study, update the system requirement document to reflect this.

4.7 Preliminary Design Standards

4.7.1 Task Purpose

To prepare geometric civil, structural, operational and safety and security standards for use in the preliminary design in the Hamilton-Wentworth Rapid Transit System.

4.7.2 Preliminary Design Standards Manual

- (a) Review design practices used for existing and planned transit systems in other cities.
- (b) Review municipal, provincial and federal regulations that might affect the design of the Hamilton-Wentworth Rapid Transit System.
- (c) On the basis of the ICTS Operational Requirement and the above reviews, prepare a set of design standards and criteria to be applied to the Hamilton-Wentworth Rapid Transit System.
- (d) Discuss these standards with municipal transit, engineering, fire and police officials and other appropriate departments and revise as necessary.

4.8 Evaluation Criteria

4.8.1 Task Purpose

To prepare evaluation criteria to be used to assess the relative merits of alternative alignments.

4.8.2 Evaluation Criteria

- (a) Based on the purposes and objectives established for

the Hamilton-Wentworth Rapid Transit System, determine the criteria to be used in the evaluation of alternative alignments.

- (b) Establish thresholds and ranges for the evaluation criteria.
- (c) Identify the critical evaluation factors for use in assessing the basic feasibility, practicality and viability of alignments as they are proposed.
- (d) Identify the important evaluation factors for use in establishing alignment shortlists.

4.8.3 Evaluation Method

- (a) Prepare a method for the application of the evaluation criteria to each alignment, reviewing and suggesting techniques of weighting and ranking performance measured against a variety of criteria with differing units.
- (b) Prepare an easily understood presentation format for the evaluation method.

- (c) Review the evaluation criteria and method with the Technical Committee.

4.9 Comparison of Alternative Modes

4.9.1 Task Purpose

To demonstrate the ability of the ICTS technology to comply with the system requirements document developed under Section 4.6.2.

4.9.2 ICTS Assessment

- (a) Confirm the ability of ICTS to meet each of the requirements identified in the system requirements document.
- (b) Confirm the ability of ICTS to meet the requirements of the Hamilton preliminary design standards manual prepared in Section 4.7.2.
- (c) Document the findings of the above assessments.

4.9.3 Modal Comparison

- (a) Identify other proven and available transit modes and determine their operating and performance characteristics.

- (b) Compare these characteristics with those of ICTS in order to determine the extent to which these other modes meet the system requirements.

4.10 Alternative Alignment Identification

4.10.1 Task Purpose

- (a) To identify alternative horizontal and vertical alignments for the Hamilton-Wentworth Rapid Transit System.
- (b) To eliminate from further consideration any alignments that are not feasible, viable or practical.

4.10.2 Alignment Development

- (a) Generate alternative horizontal and vertical transit alignments within the defined corridor.
- (b) As each alignment is generated, assess it against the criteria developed in Section 4.8.2(c) to determine whether it should be given further consideration, and document the conclusions.
- (c) Review the acceptable alignments identified above to ensure that each is sufficiently different from all others to represent a true alternative.

- (d) Study the acceptable alignments for possible groupings that would facilitate further assessment.

4.10.3 Physical Description

- (a) Prepare preliminary drawings and descriptions of each alignment, including
 - station locations
 - yard location
 - horizontal alignment
 - vertical alignment
 - power distribution requirements
- (b) For each alignment, prepare a preliminary description of the effects of supporting transportation facilities, including
 - local, regional, commuter and inter-city bus systems
 - commuter and inter-city train services
 - park-and-ride facilities
 - road facilities

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